CLAIMS

The invention claimed is:

1. A dynamic business process management system comprising:

a knowledge base including expert knowledge about one or more business

5   process domains;

an inference engine coupled to the knowledge base, the inference engine

including a partial order planner;

a management system that collects and distributes data regarding one or more

business processes and determines one or more goals; and

10   a graphical user interface system that displays information regarding the one

or more business processes;

wherein the inference engine uses the partial order planner to determine a plan

for achieving at least one of the one or more goals.

15   2. The system of claim 1, wherein the knowledge base includes one or more

plan-goal graphs.

3. The system of claim 1, wherein the knowledge base includes one or more

concept graphs.

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4. The system of claim 3, wherein the inference engine creates one or more plan instances.

5. The system of claim 3, wherein at least one of the one or more concept graphs includes a non-monotonic model of economic benefit provided by the plan instances created by the inference engine.

6. The system of claim 4, wherein the inference engine manages life cycle states of the one or more plan instances according to a commitment level of the partial order planner.

7. The system of claim 6, wherein the inference engine manages monitoring of the situation using the one or more concept graphs according to the life cycle states of the one or more plan instances.

8. The system of claim 7, wherein the inference engine determines what further processing is needed by the partial order planner based on the monitoring of the situation.

9. The system of claim 1, wherein the knowledge base includes one or more scripts, each of the one or more scripts comprising a sequence of fully or partially-specified actions.

5 10. The system of claim 1, wherein the inference engine includes an intent interpreter.

11. The system of claim 1, wherein the inference engine includes a non-monotonic truth maintenance system.

10 12. The system of claim 1, wherein a plurality of distributed dynamic business process management systems, each containing an inference engine communicate data defining the situations and plans of each organization.

15 13. The system of claim 12, wherein the inference engine detects conflicts between the plans of the participating organizations and notifies the conflicting parties of the nature of the conflict.

14. The system of claim 1, further comprising a data security mechanism that 20 protects data stored in the knowledge base.

15. The system of claim 14, wherein the data security mechanism maintains an access control list for one or more tables in the knowledge base.

16. The system of claim 15, wherein the data security mechanism maintains an access control list for one or more data records in the knowledge base.

17. The system of claim 1, wherein the partial order planner is a least commitment planner.

18. A method for conducting business process management, the method comprising:

determining a goal for a user of the business process management system; and

using a knowledge base to create a plan for meeting the determined goal.

19. The method of claim 18, wherein the act of determining a goal and creating a plan for meeting the goal is performed using a partial order planner.

20. The method of claim 19, wherein the partial order planner is a least commitment planner.

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21.   The method of claim 18, wherein the act of determining a goal is performed using a non-monotonic truth maintenance system.

22.   The method of claim 18, wherein the knowledge base includes one or more plan-goal graphs.

23.   The method of claim 18, wherein the knowledge base includes one or more concept graphs.

24.   A dynamic business process management system comprising:

a plurality of intelligent agents, each of the plurality of intelligent agents including:

a knowledge base including expert knowledge about one or more business process domains;

an inference engine coupled to the knowledge base, the inference engine including a partial order planner;

a data management system that collects and distributes data regarding one or more business processes; and

a graphical user interface system that displays information regarding the one or more business processes.

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25. The dynamic business process management system of claim 24, wherein the knowledge base includes one or more concept graphs.

26. The dynamic business process management system of claim 25, wherein each agent of the plurality of intelligent agents determines the intentions of one or more users and wherein the data management system of a first agent of the plurality of intelligent agents shares data with a second agent of the plurality of intelligent agents representing the determined intentions of the one or more users to facilitate collaboration.

27. The dynamic business process management system of claim 26, wherein the system uses the shared data to automatically detect conflicts between the one or more users.